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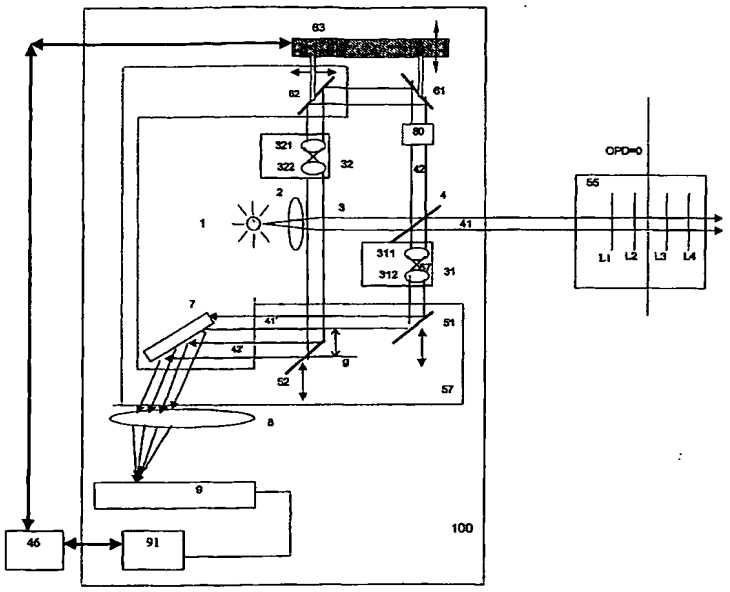
(54) Title: SPECTRAL INTERFEROMETRY METHOD AND APPARATUS



(57) Abstract: A spectral interferometry apparatus and method is provided to supply unambiguous profiles (A - scans free of mirror terms) of the reflectivity versus optical path difference and make difference between the positive and negative optical path difference or provide output in a selected interval of optical path differences. The apparatus comprises object optics that transfer a beam from an optical source to a target object (55) to produce an object beam and reference optics that produce a reference beam. Displacing means (57) are provided to produce a gap (g) between the object beam (41') and the reference beam (42'). Optical spectrum dispersing means (7) such as a grating or a prism receive the two relatively displaced beams, and disperse their spectral content onto a reading element such as a CCD. The combination of the displacing means and the optical spectrum dispersing means creates an intrinsic optical delay between the wavetrains of the object beam and the reference beam which can be used with the optical path difference in the interferometer to generate a channelled spectrum for the optical path difference in the interferometer on the reading element.

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